

Amendments to the Claims

This listing of claims will replace all previous versions and listings of the claims.

Listing of Claims:

1. (Currently amended) A device comprising: an actuator configured to support a transducer; and a position detector configured to determine a former stationary position of the transducer based on a latter motion pattern of the actuator obtained from application of a current profile of controlled variable magnitude to the actuator, wherein the actuator comprises a voice coil configured to provide a voltage to the position detector that includes a back-electromotive force component indicative of a movement of the voice coil across a magnetic field.

2. (Currently amended) The device of claim 1 in which the ~~actuator comprises a voice coil to which the current profile is applied~~ to the voice coil.

3. (Original) The device of claim 1 further comprising a latch configured to urge the actuator toward a predetermined position.

4. (Original) The device of claim 1 further comprising at least one crash stop configured to limit a range of motion of the actuator.

5. (Previously presented) The device of claim 1 in which the former stationary position comprises a position adjacent a data storage area of a storage disc.

6. (Previously presented) The device of claim 1 in which the position detector comprises a processor configured to receive voltage measurements and to derive the former stationary position in relation to an arithmetic combination of the measurements.

7. (Previously presented) The device of claim 1 in which the position detector comprises a programmable processor configured to spin-up a disc, detect the latter motion pattern after said spin-up, and generate a digital indication of a position of the transducer prior to said spin-up in relation to said latter motion pattern.

8. (Previously presented) The device of claim 1 in which the actuator supports a plurality of additional heads adjacent at least one additional disc, the discs being mounted for co-rotation on a disc stack.

Claim 9 (Cancelled).

10. (Currently amended) The device of claim 1 in which the position detector comprises an analog-to-digital converter operatively coupled across a the voice coil and configured to sample a the voltage provided by the voice coil.

11. (Currently amended) A method comprising steps of:
spinning up a data storage disc;
applying a drive current profile of predetermined variable magnitude; and

generating a digital indication of a position of a transducer prior to the spinning up step in relation to an actuator motion pattern determined in relation to the applying step and a back electromotive force measured across a voice coil.

12. (Previously presented) The method of claim 11 in which the spinning up step comprises a step of mounting a disc stack comprising the data storage disc with an axis of rotation so that the transducer is adjacent a major disc surface of the disc and so that the transducer has a limited range of motion that includes innermost and outermost transducer positions relative to the axis of rotation.

13. (Previously presented) The method of claim 11 in which the generating step comprises steps of:

increasing a voice coil motor (VCM) current magnitude through a voice coil of the actuator substantially linearly to a maximum value;
decreasing the VCM current magnitude substantially linearly to about zero; and
computing the digital indication in relation to voltage measurements taken across the voice coil before completing the decreasing step.

14. (Previously presented) The method of claim 13, further comprising a step of taking at least some of the voltage measurements after the increasing step but before the decreasing step.

Claims 15-16 (Cancelled).

17. (Previously presented) The method of claim 11 in which the generating step includes a step of seeking toward a first end-most position of the transducer.

18. (Previously presented) The method of claim 17 in which the generating step further includes a step of estimating a resistance in relation to measurements taken during the seeking step.

19. (Previously presented) The method of claim 11, further comprising a prior step of parking the transducer on the data storage disc.

20. (Previously presented) The method of claim 11 in which the generating step includes a step of indicating whether the detected motion pattern met a predetermined motion pattern criterion.

21. (Previously presented) The method of claim 11 in which the generating step includes a step of indicating whether the head was parked normally just before the spinning up step.

22. (Previously presented) The method of claim 11 in which the generating step comprises steps of:

generating a scalar measure of how far the transducer was from a reference position; and
generating the digital indication as a Boolean value indicating whether the scalar measure exceeds a predetermined threshold.

Claim 23 (Cancelled).

24. (Previously presented) The method of claim 11 further comprising a step of deciding whether to search for a failure mechanism on a surface of the disc based on the digital indication.

Claims 25-29 (Cancelled).

30. (Previously presented) The device of claim 1 in which the current profile comprises a first portion wherein the applied current is sequentially increased from a first value to a maximum value and a second subsequent portion wherein the applied current is sequentially decreased from the maximum value to the first value.

Claim 31 (Cancelled).

32. (Previously presented) The method of claim 11 in which the drive current profile of the applying step comprises a first portion wherein the applied current is sequentially increased from a first value to a maximum value and a second subsequent portion wherein the applied current is sequentially decreased from the maximum value to the first value.

Claim 33 (Cancelled).

34. (Previously presented) An apparatus comprising an actuator supporting a transducer, and a position detector configured to determine a former position of the transducer in relation to

a latter motion pattern of the actuator, wherein the actuator comprises a voice coil, and wherein the position detector comprises an analog-to-digital converter operatively coupled across the voice coil.

35. (Previously presented) The apparatus of claim 34, wherein the voice coil is configured to provide a voltage to the position detector that includes a back-electromotive force component indicative of a movement of the voice coil across a magnetic field.

36. (Previously presented) The device of claim 34 in which the position detector comprises a programmable processor configured to spin-up a disc, detect the latter motion pattern after said spin-up, and generate a digital indication of a position of the transducer prior to said spin-up in relation to said latter motion pattern.